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P.E.S. College of Engineering, Mandya - 571 401

(An Autonomous Institution affiliated to VTU, Belgaum)

Seventh Semester, B.E. - Electrical and Electronics Engineering

Semester End Examination; Dec - 2016/Jan - 2017

Testing and Commissioning of Electrical Equipments

Time: 3 hrs

Max. Marks: 100

Note: Answer FIVE full questions, selecting ONE full question from each unit.

UNIT - I

- 1 a. Explain the various procedures of processing a power transformer before it is commissioned. 10
- b. What is polarization index? Draw a dry out centre for transformer. Explain the procedure. 10
- 2 a. Explain the typical tests carried out on transformer before commissioning. 10
- b. Explain the physical, electrical and chemical properties of transformer oil. 10

UNIT - II

- 3 a. Write the various specifications of alternators. 5
- b. State the various types of enclosures adopted in a generator. 5
- c. Explain the various abnormal conditions in synchronous generators and their effect in the generator along with its protection. 10
- 4 a. Explain the sudden 3-phase short circuit test on a 3-phase generator and how to calculate x'_d and x''_d ? 10
- b. Describe the methods of cooling employed in synchronous machine. 4
- c. Explain the various steps of installation of a synchronous machine. 6

UNIT - III

- 5 a. Explain in detail, the different methods of drying out of the induction motors. 10
- b. Explain briefly the no load, blocked rotor and temperature rise tests for Induction motors. 10
- 6 a. Explain the foundation work for installing medium and large induction motors. 10
- b. Explain different duties of Induction motors. 6
- c. State the various causes for vibration of induction motors. 4

UNIT - IV

- 7 a. Explain the various tests permitted on HV ac circuit breakers. 10
- b. Explain the maintenance of SF₆ circuit breakers. 10
- 8 a. What are the specifications of CTS? 5
- b. Explain the mechanical test conducted on CB. 5
- c. Explain with the help of layout diagram, the short circuit testing station and the method of short circuit test conducted on circuit breakers. 10

UNIT - V

- 9 a. Explain the safety management interface with O and M. 10
- b. State the seven principles of safety management. 10
- 10 a. What is electric shock? Distinguish between primary shock and secondary shock. 10
- b. State the significance of First Aid. Explain the steps of First Aid at sight when person get shocks. 10

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